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  Drivers used to stewing in traffic might regard a string of green lights as a stroke of luck, a mini victory over a system that so often seems to hold them back.
It isn't.
For years, engineers have been able to control the timing of signals on particular stretches of road.
In the Chicago area, signals on hundreds of arterial roads are coordinated. But each is a system onto itself, covering from two to 24 intersections.
What hasn't been done in the Chicago area is linking those lengths into a large network. Lake County is the exception, with PASSAGE — a system to connect and coordinate signals along state, county and local roads.
"They're alone in that they've gotten this far," said Steve Travia, the Illinois Department of Transportation's traffic engineer for the six-county metropolitan area.
IDOT is among several agencies and observers present this morning for the grand opening of the $6.8 million system being closely watched in the industry.
Will, Kane and DuPage counties are developing similar plans, and IDOT is talking with Cook County about a network in the Schaumburg area, according to Travia.
"The goal here is to tell people what's happening, where it's happening and where there might be something unusual in their daily lives," he said.
Managing unforeseen traffic snafus is the biggest advantage, he said.
More green lights, better and quicker information, and the ability to deal with traffic problems instantly are among the promises of PASSAGE (Program for Arterial Signal Synchronization and Travel Guidance). It is Lake County's foray into the world of Intelligent Transportation Systems.
That the system is computerized is the biggest advantage, says Tony Khawaja, the county's traffic engineer and resident maestro behind the machinery.
"Everything is live, everything is online," he says.
"Where the system will be very beneficial is to fix things that break as quickly as possible."
Lake also is the first local network to connect to the Gary-Chicago-Milwaukee ITS Priority Corridor, stretching 130 miles through Wisconsin, Illinois and Indiana.
ITS stands for Intelligent Transportation System, a federal initiative launched in the early 1990s.

The idea is to use advanced communications and technologies to move traffic, improve safety and provide information for travelers.
The priority corridor was designated by the federal government in 1993 as a cooperative effort involving 30 transportation agencies and other partners in the three states.
Combining corridor management systems is a major initiative of the Federal Highway Administration.
Operated the last two months from a space-age nerve center in Libertyville, PASSAGE is in the first phase of what is envisioned as an ever-expanding attempt to get the most out of existing roads.
The Illinois State Toll Highway Authority and IDOT are partners in PASSAGE, which is linked to those networks as well.

"It's a benchmark system," explained David Zavattero, ITS program manager for IDOT. PASSAGE now includes about 45 traffic signals, but 150 of the county's 661 signals are expected to be connected by summer. The first thrust is main county and state roads in southeast Lake County.

With money to widen roads scarce, the strategy is to use advanced technology to keep things moving.

Because only so many vehicles can fit on so many roads, the advantage won't be as apparent during the daily grind. But when traffic is at its nastiest, operators in Libertyville will be able to react immediately.

"The real test will come when we have a big snowstorm or a catastrophic wind or a large event like a fire, when traffic will have to be rerouted," said U.S. Rep. Mark Kirk, who helped secure federal funding for the project. "When we go through those events, people will see a visible difference."

Eventually, through a highway advisory radio station, electronic message boards and the Internet, Lake County drivers will have access to up-to-the-minute information to find the best way to get where they need to go.

In the current system, engineers aren't always immediately aware of a problem with a signal. Equipment that controls individual stretches of lights can be adjusted over the phone, but those calls must be made one at a time.

The new system uses fiber optic cable to provide constant monitoring via sensors and cameras that determine travel times and vehicle speed. Data is collected and analyzed to find problem spots and the signals are automatically adjusted.

Operators also can "see" what's happening on the street using a network of 249 fixed and movable cameras. Images can be displayed on a video wall of 12 big screens in the Libertyville center.

The images will not be recorded but can be shared with the Lake County sheriff's office emergency dispatch center to provide an idea of what's happening at an accident scene, for example, and to assist in the response.

Besides automatically monitoring and adjusting signals at intersections, PASSAGE will allow operators to use pre-determined responses for specific kinds of problems.

When the Des Plaines River flooded in 2004, for example, Grand Avenue in Gurnee was closed and massive traffic jams ensued as drivers scrambled to find alternates. With the new system, operators would have been able to coordinate signals on adjoining roads.

But with 16 scenarios for every intersection, getting data into the system to determine what those plans will be is time-consuming. When that might be in place is undetermined.

"We had no one to follow on how to calculate this information," Khawaja said.

There are other kinks to work out. Upgraded software needed to communicate with the two different types of traffic signals in use in the county isn't ready, for example.

And a proposed connection with the tollway system is on hold as that agency changes from analog to digital equipment.

For now, the emphasis will be on refining the process of managing traffic, with more elaborate bells and whistles to come.

"It's very cool," says Mike Williams, vice president of Traffic Control Corp., the Addison-based firm that distributes the software that runs PASSAGE.

"There's a lot of people across the country in transportation circles that have their eye on what's going on here."